



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of: **Tetsuro YAMATE**

Group Art Unit: 1712

Application Number: **10/820,844**

Examiner: **Daniel S. Metzmaier**

Filed: **April 9, 2004**

Confirmation Number: 8680

For: **CHEMILUMINESCENT COMPOSITION**

Attorney Docket Number: **030486**

Customer Number: **38834**

**DECLARATION UNDER 37 CFR §1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

June 8, 2007

Sir:

I, Tetsuro Yamate, hereby declare and state that:

(1) I am an inventor of the invention described in US Serial Number 10/820,844. I have been engaged in research of a chemiluminescent composition and chemiluminescent device at Lumica Corporation from 1993 to the present.

(2) I am familiar with the contents of the United States Patent Application Serial No. 10/820,844, filed on April 9, 2004, claiming priority of Japanese Application No. 2003-108501 filed on April 14, 2003, and the cited reference, WO94/19421 (Omniglow). I am the inventor of the invention of United States Patent Application Serial No. 10/820,844.

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(3) I have read the outstanding Office Action issued by the Examiner in this case.

(4) To show the superiority of the present invention, I have tested the followings:

(i) Preparation of the Samples A-C

Using dibutyl phthalate (DBP), acetyltributyl citrate (ATBC) and triethyl citrate (TEC), chemiluminescent compositions were prepared in the same manner as described in the specification of the present application.

That is, 0.007 mol of 1-chloro bis(phenylethynyl)anthracene (1-c BPEA) and 0.083 mol of bis (2,4,5-trichloro carbopentoxyphenyl) oxalate (CPPO) were added to 1 L of dibutyl phthalate (DBP), which was then heated to obtain Sample A.

0.007 mol of 1-chloro bis(phenylethynyl)anthracene (1-c BPEA) and 0.083 mol of bis (2,4,5-trichloro carbopentoxyphenyl) oxalate (CPPO) were added to 1 L of acetyltributyl citrate (ATBC), which were then heated to obtain Sample B.

0.007 mol of 1-chloro bis(phenylethynyl)anthracene (1-c BPEA) and 0.083 mol of bis (2,4,5-trichloro carbopentoxyphenyl) oxalate (CPPO) were added to 1 L of triethyl citrate (TEC), which were then heated to obtain Sample C.

(ii) Preparation of Oxidizing Liquid

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An oxidizing liquid was prepared in the same manner as the description at page 4, lines 14-16 of the specification of the present application.

(iii) Test of luminescent

0.42 cc of the oxidizing liquid was added to and mixed with 0.84 cc of the solutions of Sample A-C to induce luminescence and to measure the luminescent time and luminescent intensity, in the same manner as the description at page 4, lines 3-10 of the specification of the present application.

(iv) Results

The results are shown in the following table.

Lapsed time (minutes)	2	15	60	120	180	240	300	360
DBP	36830	24300	13280	6513	3198	1638	812	478
ATBC	35122	23139	12997	6437	3101	1624	832	518
(compared with DBP)	(95%)	(95%)	(98%)	(99%)	(97%)	(99%)	(102%)	(108%)
TEC	20437	16838	11181	5691	2584	1109	419	178
(compared with DBP)	(55%)	(69%)	(84%)	(87%)	(81%)	(68%)	(52%)	(37%)

Measurement at 23°C

Luminescent Intensity: candela (mcd/m<sup>2</sup>) (measured by a luminance meter available from Minolta Camera Co., Ltd., Japan)

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(5) I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under the laws of the United State and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Tetsuro Yamate  
Tetsuro Yamate

June 8, 2007

Date